

Curriculum Vitae

Richard A. Hurt

Educational Background

University of Tennessee, Knoxville, TN

B.A. 1991 Biochemistry

Magna cum laude

University of Tennessee, Knoxville, TN

Ph.D. 1997 Microbiology

Oak Ridge National Laboratory, Oak Ridge, TN

Post-Doc 1998-2001

Environmental Sciences

Present Position

2010-Present Post-Doctoral Research Associate; Biological and Environmental Sciences ORNL

Major Research Interests

Biotechnology development/environmental pathogen diagnosis and surveillance/ energy bioconversion, Environmental Sciences.

Professional Experience

1991 – 1997 Graduate teaching assistant, University of Tennessee

1996 – 1997 Instructor, Tennessee Governor's School for the Sciences

1997 – 1998 University of Tennessee, Post Doctoral Research Associate

1998 – 2001 Post Doctoral Research Associate, Oak Ridge National Laboratory

2001 – 2010 Senior Research Scientist/Principle Investigator- Atom Sciences, Inc., Oak Ridge, TN

2010 – 2013 Post Doctoral Research Associate, Oak Ridge National Laboratory

Patent Action 2004 - present

Hurt, R.A. and Whitaker, T.J., Polymeric Nucleic Acid Hybridization Probes, U.S. Patent Application 60/504,991. Type: Utility Disposition:

Hurt, R.A. and Whitaker, T.J., DNA Sequence Detection by Limited Primer Extension, U. S. Patent Application 11/081,518. Type: Utility Disposition: Granted 5/27/08

Hurt, R.A., Extraction of pure RNA and DNA from samples with high organic content, U. S. Patent Application 11/356,152. Type: Utility Disposition: Converted to Utility Patent Application 02/18/05

Hurt, R.A., Extraction of High-Purity DNA and RNA, U.S. Patent Application 11/356,152 Disposition: Pending 02/17/06

Hurt, R.A., Method of Producing Ethanol with Respiration-Deficient Yeast, U. S. Patent Application PCT/US07/14407 Type: Provisional filed, June 21, 2006. Type: Provisional 06/20/07 Disposition:

Hurt, R.A., and Whitaker, T.J., Nucleic Acid Sequence Detection by Void Extension Ligation Amplification U. S. Patent Application 61/085,929 Type: Provisional filed August 4, 2008. Disposition: International Application filed August 4, 2009.

Hurt, R. A., Application of 3' terminal mismatched terminators for enhancement of editing polymerase extension specificity in nucleic acids based analyses, U. S. Patent Application 61/103,678 Type: Provisional; filed October 8, 2008.

Hurt, R. A., Method for Amplification of Targeted Nucleic Acid Molecules by Strand Displacement Chain Reaction, U. S. Patent Application 61/144,273 Type: Provisional; filed January 9, 2009.

Hurt R. A., and D. A. Elias Method for Extracting Nucleic Acids from Clay Environments Complexed clays. 61/660,143 Type: Provisional; filed June 15, 2012

Selected Peer-reviewed publications and Meeting Abstracts

Hurt, R. A., C. F. Joyner, L. Mosi, P. L. C. Small, and T. J. Whitaker. Discrimination among *Mycobacterium ulcerans* and other mycolactone producing mycobacteria using a novel ligation dependent multiplexing strategy. American Society for Microbiology 109th General Meeting (2009)

Hurt, R. A., Charles F. Joyner, K. Chourney, K. Raney, S. C. Minkin Jr., B. Sikora, C. Vasile-Collins, and T. J. Whitaker, Sensitive Detection of *Vibrio cholerae* El Tor Genomic DNA using Isothermal Helicase Driven Iterative Extension Technology, Poster presentation. American Society for Microbiology 107th General Meeting (2007)

Hurt, R.A., C.A. Vasile, and T. J. Whitaker, New technique for identification of members of genus mycobacterium. 40th annual U.S.-Japan Cooperative Medical Science Program's Tuberculosis and Leprosy Conference, Infectious Disease Research Institute, Seattle, WA, July 28-30, 2005.

Qiu, X.-Y., R.A. Hurt, L.-Y. Wu, C.-H. Chen, J.M. Tiedje and J.-Z. Zhou. Detection and quantification of copper-denitrifying bacteria by quantitative competitive PCR. Journal of Microbiological Methods, 59:199-210. (2004).

Taranenko, N. I., R.A. Hurt, J. Z. Zhou, N. R. Isola, H. Huang, S. H. Lee, and C. H. Chen. Laser desorption mass spectrometry for microbial DNA analysis. Journal of Microbiological Methods. 48:101-106. (2002)

Hurt, R. A., L. Wu, X. Qiu, C. T. Garten, P. J. Mulholland, A. V. Palumbo, and J. Zhou. Molecular Examination of the Distribution and Expression of Nitrogen Cycle Genes in Soils and Sediments of Eastern Tennessee. ASM 101st General Meeting. (2001).

Hurt, R. A., X.-Y. Qiu, Y. Roh, A. V. Palumbo, J. M. Tiedje, and J.-Z. Zhou. Simultaneous Extraction of RNA and DNA from Soils and Sediments. Appl. Environ. Microbiol. 67: 4495-4503 (2001).

Wu, L.Y., D. K. Thompson, G. Li, R. A. Hurt, J. M. Tiedje, and J.-Z. Zhou. Development and evaluation of functional gene arrays for detection of selected genes in the environment. Appl. Environ. Microbiol. 67:5780-5790 (2001).

Hurt, R. A. (1999) Direct extraction of total nucleic acids from soils and sediments. DOE NABIR Conference: Applications of Genomic Technology to Bioremediation. Arlington VA December 5-7.

Hurt, R. A. S. D. Brown, M. Podar, A. V. Palumbo, and D. A. Elias. (2012). Sequencing Intractable DNA to Close Microbial Genomes. PlosOne 7:e41295.

Mosher, J.J., T. J. Phelps, M. Podar, R. A. Hurt, J. H. Campbell, M. M. Drake, J. G. Moberly, C. W. Schadt, S. D. Brown, T. C. Hazen, A. P. Arkin, A. V. Palumbo, B. A. Faybishenko, and D. A. Elias. 2012. Microbial community succession during lactate amendment and electron acceptor limitation reveals a predominance of metal-reducing *Pelosinus* spp. Appl. Environ. Microbiol. 78:2082-2091.

Brown, S. D., M. Podar, D. M. Klingeman, C. M. Johnson, Z. K. Yang, S. M. Utturkar, M. L. Land, J. J. Mosher, R. A. Hurt Jr., T. J. Phelps, A. V. Palumbo, A. P. Arkin, T. C. Hazen, and D. A. Elias. (2012). Draft Genome Sequences for Two Metal-reducing *Pelosinus* fermentans strains isolated from a Cr(VI)-contaminated site and for type strain R7. J. Bacteriol. 194:5147-5148.

Hurt, R. A., J. G. Moberly, M. Shakya, Z. K. Yang, M. M. Drake, L. T. Dice, T. A. Vishnivetskaya, B. Gu, H. Hu, and D. A. Elias. 2012. Recovery of nucleic acid from iron oxide complexed clay environments. ASM 112th General Meeting.